DIA, DOS and OSD completed.

D/OPEI 25X1

DOE review completed.

THE DIRECTOR OF CENTRAL INTELLIGENCE

WASHINGTON, D. C. 20505

ICS 77-2480
17 MAY 1977

Intelligence Community Staff

MEMORANDUM FOR: Dr. Sayre Stevens
Deputy Director for Intelligence, CIA

Major General Lincoln D. Faurer, USAF
Vice Director for Production, DIA

Mr. Ray Chapman
Director, Division of International Security Affairs
ERDA

[redacted] 25X1
Acting NIO for Nuclear Proliferation

Mr. Lawrence E. Finch
Director, Strategic Affairs
Bureau of Intelligence and Research
Department of State

[redacted] 25X1
NSA

Mr. Charles N. Van Doren
Acting Assistant Director, Non-Proliferation Bureau
ACDA

Mr. James R. Shea
Director, Office of International Programs
Nuclear Regulatory Commission

25X1 FROM: [redacted]
Chairman, Ad Hoc Data Base Working Group
for Nuclear Proliferation

SUBJECT: Nuclear Proliferation Data Base Working Group (DBWG/NP) Meeting

1. The next DBWG/NP meeting is scheduled for 0900-1200, Thursday, 26 May 1977 [redacted] 25X1

25X1 [redacted]

25X1

2. The list of agenda items for this meeting is as follows:

-- Review of input provided by State/INR, CIA, DIA, and ERDA as a result of requirements specified in first meeting (Attachments 1 through 5). 25X1

-- ERDA presentation of Pu/HEU data base development (ERDA).

-- Determination of data base requirement for country studies, mulitidisciplinary analyses, and early warning.

-- Data base organization. Consideration of objectives and utilization (action).

-- Development of a systematic, coordinated plan for improvement of data base.

-- Compartmentation problems.

-- Development of a central nuclear proliferation intelligence directory.

-- Contract assistance.

3. The meeting will be at the SI/TK level. Please submit the name(s) of your representative(s) to me by 23 May and forward certifications of their security clearances to 25X1

25X1

Attachments:
1. Point paper/agenda for 1st DBWG/NP meeting, 9 Feb 77
2. State/INR memo, 30 Mar 77
3. CIA Memo, 11 Mar 77
4. DIA Memo, 14 Mar 77
5. ERDA Memo, 21 Mar 77

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ICS 77-2480

Distribution:
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1 - OPEI/ID
1 - OPEI/SD
1 - OPEI/PAID Subject File
1 - OPEI/PAID Chrono File
STATINTL 1 - OPEI/PAID [redacted]
1 - ICS Registry

STATINTL ICS/OPEI/PAID/[redacted] May 1977

9 February 1977

Nuclear Proliferation Intelligence Data Base

As part of an ongoing review by the Intelligence Community of its posture to provide nuclear proliferation intelligence, a number of recommendations have been made for expanding the supporting data base. These recommendations encompass, for example, the following types of data on a country-by-country basis:

-- Worldwide stocks and flows of plutonium and highly enriched uranium.

-- Technology and development efforts for various capabilities necessary for a nuclear weapons program (e.g., high explosive technology).

-- Existing and planned nuclear energy facilities and projects.

-- Inventory of manpower trained in disciplines and skills related to nuclear weapons development or production.

The Problem

The Intelligence Community needs to define specifications for a nuclear proliferation data base, including the identification of data to be incorporated, the degree of precision to be sought in this data, and priorities to be accorded in expanding various elements of the current data base. To aid in defining these specifications, an analysis is needed of the feasibility, costs, and benefits of collecting and maintaining various elements of data. This analysis should be conducted on the basis of known and anticipated needs of users for nuclear proliferation intelligence, including the White House, State, DOD, ERDA, NRC, and ACDA.

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Specific Tasks

To accomplish this analysis, the following tasks must be undertaken. In some of these tasks, contractor assistance may be called for.

Task 1: Describe the existing nuclear proliferation data base (e.g., data elements, degree of precision, by whom the data is maintained, who has access to the data).

Task 2: Identify current and projected needs of users for nuclear proliferation intelligence with sufficient scope and detail to make inferences about data base requirements.

Task 3: Make a preliminary inventory of potential content of a nuclear proliferation data base, to be refined in subsequent tasks. Data elements should be screened at this stage on the basis of collection feasibility and a first order assessment of utility.

Task 4: Assess the costs and benefits of including each of the above data elements in a nuclear proliferation intelligence data base. For those data elements in which precision of the data is an issue (e.g., location of the world's holdings of plutonium and highly enriched uranium), perform cost-benefit studies of various degrees of precision.

Task 5: Based on Task 4, make recommendations on the scope, content, and degree of precision for a nuclear proliferation data base.

Task 6: Based on an assessment of the priorities of user needs for nuclear proliferation intelligence, recommend priorities for expansion of the current data base.

Task 7: Make recommendations about who should be responsible for maintaining the expanded proliferation intelligence data base, the most efficient means for intelligence personnel to access the data base, and which user agencies (if any) should have direct access to the data base.

ATTACHMENT 2

DEPARTMENT OF STATE

Washington, D.C. 20520

SECRET

March 30, 1977

MEMORANDUM

25X1

TO : [redacted]
Chief, Production Assessment
and Improvement Division
Intelligence Community Staff

FROM: Lawrence E. Finch
Director, Strategic Affairs
Bureau of Intelligence and Research
Department of State

SUBJECT: Nuclear Proliferation Data Base

REFERENCE: Memo IC 77-2441, dated March 2, 1977

Task 1: The State Department's contribution to the Communities nuclear proliferation data base comprises telegrams, airgrams, memoranda of conversation, and published materials produced or acquired by our diplomatic missions abroad. The cable materials are maintained in an electronic date retrieval systen in the Department, which is accessible in part by outside agencies. The other materials are maintained in the files of the responsible geographic or functional offices and the originating posts. After a given period of time these office files are retired to a central repository for safekeeping.

This date base comprises all aspects of the proliferation problem, such as the activities, policies, and motives of foreign nations as suppliers or recipients of nuclear materials, equipment, or technology; the status and purposes of research and development programs; the financial and trade implications of their programs for themselves or the overall world situation; and the international (bilateral or multilateral) cooperation in nuclear programs. This data reflects information gleaned on an official or private basis from contacts in all areas of government, industry, and society in host countries. The factual precision of this reportage is thus a function of the reliability of its sources as is other proliferation data gathered by the Intelligence Community.

SECRET

Access to the data by State Department employees or personnel of other agencies is, for certain classifications, based on level of clearance only and for others by "need-to-know" criteria which determine initial distribution and re-release and dissemination.

In addition to the information produced by the State Department itself, the various subdivisions of the Bureau of Intelligence and Research maintain in their individual office files the finished and unfinished intelligence products of the other components of the Intelligence Community. These files reflect all available compartmentalized intelligence from the CIA, DIA, and NSA, among others, which thus gives the Department a complete assemblage of reporting from which to proceed with its analytical tasks.

Tasks 2 and 3: Attached is an outline of the current and projected needs of users of nuclear proliferation intelligence. Generally, the intelligence needs are focused on (a) nuclear recipient countries and (b) present and potential suppliers.

A. Intelligence on Recipient Countries

The Intelligence Community has already identified those NNWS which appear to be likely near-term candidates for attaining the capability to fabricate nuclear explosive devices. Obviously, such a list is and will continue to be of paramount importance to the policy community. It needs to be continously updated and revalidated, and to serve as the basis for in-depth collection and analysis of relevant information encompassing the spectrum of traditional analytical disciplines, as suggested below:

1. The political factors which underly and influence the nuclear explosives option or actual development of nuclear weapons capabilities, including

security relationships with the major powers, regional instabilities, national ambitions, and constituencies within the government, (e.g., military) which may be interested in and/or pressing for a weapons option.

2. Technological capabilities, in place or being acquired, which enhance or constrict the ability of NNWS to achieve an explosives capability. This includes such broad factors as the level of technical expertise available to the country, the quality of its technical and scientific educational establishment, the country's ability to attract foreign expertise when necessary.

3. The technical and resource base of the country, including basic data on its nuclear facilities present and planned, whether indigenously developed or with foreign assistance and from whom, and its possession of and access to necessary materials.

4. The economic resources upon which the country must rely, including trade balance, credit standing, currency reserves, and other factors which influence the ability of a country to be an attractive and aggressive potential customer for advanced technology.

5. The status of and effectiveness of NPT restraints, IAEA or bilateral safeguards, and any other multinational or supplier-imposed constraints relative to the country's nuclear program.

These factors, developed on a country-by-country basis, would provide a needed data base and analytical platform for measuring the degree of proliferation risk associated with each candidate country, and would also provide a basis

for determining what non-proliferation constraints and incentives might be effective in the context of an overall US non-proliferation strategy vis-a-vis the target country. Such analysis, which ought to take place in parallel with and in relation to policy formulation, should take account of:

-- The likelihood that such devices as security assurances or political threats might influence previously taken decisions in favor of developing a nuclear option.

-- Points of vulnerability or weakness in a national nuclear program, pointing out those key elements of the nuclear cycle which the country lacks and/or must rely on foreign suppliers for assistance in developing, including materials and technology.

-- The country's vulnerability to outside economic pressure, for example in the form of sanctions or withholding of economic assistance for nuclear purchases.

-- The relevance and acceptability of supplier-imposed incentives and constraints such as fuel assurances, non-sensitive nuclear or non-nuclear technological assistance, full-scope safeguards, imposed conditions on disposition of spent fuel, etc., and the degree to which such measures would be effective in responding to the proliferation threat.

B. Intelligence on Nuclear Suppliers

US decisions on and implementation of non-proliferation policy cannot take place in isolation from the policies and

actions of other nuclear suppliers. The policy community, therefore, requires detailed information on current and projected nuclear supplier states, and comprehensive analysis of the various factors which determine present and evolving nuclear export policies and practices. The following list of such factors is illustrative:

1. Current and projected export capabilities--types and volume of reactors, fuel cycle technology, consulting services, manpower, fuel guarantees, etc.

2. Political and economic aspects of nuclear export programs, such as use of exports to further foreign policy goals, desire to support domestic industry, efforts to maintain or rectify trade balances, etc.

3. Nature of supplier government relationships with nuclear industry--degree of export control through licensing, informal influence, etc., as well as government's interest or role in promoting nuclear exports.

4. Supplier willingness to supply sensitive technologies facilit to NNWS, or attitudes toward recipient investment in supplier/

5. Supplier policies with respect to NPT status, safeguard coverage in recipient countries, Nuclear Supplier Group undertakings, IAEA activities, etc.

6. Competition between suppliers for nuclear sales.

C. International and Sub-National Aspects of Proliferation

1. International: In addition to country-oriented studies and analysis, several other factors which impinge on US efforts to control proliferation require continuous monitoring, such as:

-- World-wide uranium and thorium resources, and price trend

-- Stocks of fissionable materials, in and out of spent fuel

-- World-wide enrichment and reprocessing and spent fuel storage capacity.

-- Trends in the relative economics of nuclear and non-nuclear production of electricity.

-- Trends in regional cooperation in nuclear technology or fuel services.

-- Bi-or multi-national cooperation, perhaps covert, in developing sensitive technologies or explosives research.

-- Groupings of recipient states in opposition to supplier policies.

2. Sub-National. The concern here is primarily with the potential proliferation risk posed by terrorist or other political splinter groups. Aspects against which collection and analytical resources should be targetted include the identification of relevant groups, assessment of their motives and capabilities to fabricate or otherwise acquire a nuclear device, and the physical security and technology control programs of states whose nuclear facilities or capabilities are potentially vulnerable to sub-national exploitation.

11 March 1977

25X1

MEMORANDUM FOR: [redacted]
Intelligence Community Staff

FROM : G. W. Allen
Center for Policy Support

SUBJECT : Nuclear Proliferation Data Base

1. A number of CIA components are engaged in tasks related to the production of nuclear proliferation intelligence.

--The Office of Regional and Political Analysis prepares finished intelligence on the intentions and activities of potential weapons states and suppliers of nuclear technology.

--The Office of Economic Research prepares finished intelligence on the energy resources, potential, and programs of various countries, including their nuclear power programs.

--The Office of Scientific Intelligence produces a wide range of analytical products on technical aspects of nuclear proliferation (nuclear facilities, technicians, and organizations), and non-nuclear energy technologies and facilities.

--The Office of Imagery Analysis produces imagery-derived analyses of nuclear facilities and activities in direct support of CIA production requirements.

--The National Photographic Interpretation Centers monitors and reports on selected nuclear facilities in response to intelligence community requirements.

--The Office of Central Reference operates reference facilities and provides remote terminal access to classified and unclassified information within the intelligence community.

2. Each of the analytical components maintains information files as necessary to support its analytical needs. Most of these are all-source paper files, usually ordered by country, or by some topical subdivision relevant to the particular interest of the office. These contain selected raw information--sometimes annotated--as well as processed information. Automated files include:

[redacted] 25X1

--The AEGIS file maintained by OCR which indexes all CIA finished intelligence products, and is accessible through COINS.

3. Additional data needed includes:

--More comprehensive HUMINT and SIGINT reporting on attitudes, intentions, and nuclear activities in potential nuclear weapons and nuclear supplier countries.

--More complete data on stocks and the flow of plutonium and lightly enriched uranium around the world.

[redacted] 25X1

4. Consumers of CIA finished intelligence products are primarily policy-oriented at various levels of the Executive and Legislative branches.

--Some products support policy formulation, some support ongoing negotiations.

--Through the NIO and DDI/CPS structure, increased focus is being given to producing interdisciplinary products

directly focused to the interests of the principle policy-making elements.

5. More detailed information is, of course, available if needed.

[redacted] 25X1

G. W. ALLEN

OPTIONAL FORM NO. 10
MAY 1962
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

U-2543/DT-1

25X1 TO :

DATE: 14 March 1977

25X1 FROM :

SUBJECT: Nuclear Proliferation Data Base

Reference: Memo IC 77-2441, 2 March 1977, subject as above.

1. Input to Task 1 of the reference memo was sent under separate cover on Friday, 11 March 1977.

2. Task 2 can probably be satisfied by refering to inputs to the Users Conference on Nuclear Proliferation which was held on January 7, 1977. ASD/ISA, ACDA, ERDA, and NRC had prepared statements outling their needs.

3. In response to Task 3 the following filing system has worked well for DIA/DT-1C. Each country of interest is assigned a number (1-90) and within the country are the following categories:

10 General Nuclear Program

100 Nuclear Physics and Chemistry

130 CTR

131 Laser

132 MHD

200 Nuclear Research

300 Nuclear Reactors

321 Thermal Power Reactors

325 Fuel Reprocessing

330 Nuclear Propulsion

350 Research Reactors

360 Breeder Reactors

380 Nuclear Reactor Components and Technology

5010-108

400 Nuclear Materials

410 Uranium

420 Thorium

440 Plutonium

450 Heavy Water

500 Isotope Separation Methods

584 Proliferation

600 Nuclear Weapons

680 Intelligence Estimates

705 Cooperation

825 Waste Disposal

4. In addition, DIA has two automated intelligence files (AIF) on nuclear reactors:

a. DIA/DB-4B has an AIF on nuclear power reactors.

b. DIA/DT-1C has an AIF on nuclear reactor parameters.

Both of these are available on the DIAOLS/COINS system.

25X1

Chief, Nuclear Materials
and Reactors Branch

-- Task 1 of DIA input intentionally omitted. Will be provided at meeting.

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

INTERNATIONAL
SECURITY AFFAIRS

4 JAN 1977
In reply refer to:
I-20022/77

MEMORANDUM FOR [redacted] 25X1

SUBJECT: DOD (ISA) Contribution to [redacted] Meeting (Friday, January 7, 1977) on Proliferation Intelligence (U) 25X1

(U) The increased attention being given by the USG to policies designed to inhibit and/or prevent proliferation ought to be matched by better focused and coordinated efforts by the intelligence community. The new policies have been designed to counter the spread of nuclear weapon capabilities through the ready access to plutonium. This access is increasing at a time when clear U.S. strategic superiority can no longer be assumed -- hence both motivation and possibility may be increasing.

(U) As the agency responsible for national security, the DOD must have early warning of current and potential threats to this nation and allies. Intelligence efforts must provide the forecast upon which responses can be based.

(U) The DOD participates in non-proliferation policy through its augmentation of mutual security alliances, including the limited provision of nuclear weapons under U.S. custodial control in the Military Assistance Program (MAP).

(S) The DOD may be charged to locate and remove especially dangerous examples of proliferation. If such a requirement materializes, the details of locations of facilities, readiness of forces, and vulnerability of defenses may suddenly become crucial intelligence needs. (The types of questions posed at the time of the discovery of nuclear weapons in Cuba might illustrate this category.)

(S) A number of specific questions can be derived from these general DOD interests. The following, by no means complete, list provides some examples:

1. (S) What are the interests and capabilities of the several nations to acquire nuclear weapons and how is this changing with time? (The FRG is noteworthy both for its capabilities and the danger posed should it move towards proliferation -- a special watch should be provided.)

25X1 [redacted]

2. (U) What are the means by which the U.S. (and/or the nuclear supplier states) can apply leverage to induce a nation inclined towards proliferation to desist? What can the IC contribute to the answer to this question?

25X1

3. (S) Do U.S. security guarantees provide disincentives to proliferation? If so, what features of such guarantees are most useful?

4. (U) What have been the various nations' responses to the U.S. loss of strategic superiority? At the level of real policy, has it made a difference to foreign nuclear programs?

5. (S) Would a much broader extension of nuclear weapon sharing via the military assistance programs as practiced in NATO be a sufficient solution to security concerns of nations to induce them to forego indigenous nuclear weapon capabilities?

25X1

6. (S) Within nations acquiring nuclear weapons, can the location of facilities and the timetable of progress from non-nuclear to nuclear status be determined by overt or covert means with sufficient accuracy to permit direct action against key elements?

7. (S) A special watch must be maintained on nations which, through membership in the NPT and/or adherence to the various nuclear safeguards, have obtained large nuclear power facilities and growing (potential) stocks of plutonium. Since a nuclear weapon capability could be produced quickly from such stocks if prior R&D had prepared the way for weapon manufacture, the IC community should search for evidence of such R&D programs in all such states, especially those with special security problems, or those whose proliferation would be most disturbing.

(S) Questions of this nature need answers based on the best information which can be obtained by whatever means are available to the intelligence community, with special attention to relative ease with which a nuclear weapons program can be concealed prior to a detonation.

James P. Wade, Jr.
Deputy Assistant Secretary

 ATTACHMENT 5

UNITED STATES
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
WASHINGTON, D.C. 20545

MAR 2 1 1977

25X1

Intelligence Community Staff
Room 6E04, Headquarters Building
Central Intelligence Agency
Washington, D. C. 20505

25X1 Dear

This letter is in response to your memorandum of March 2, 1977, requesting a preliminary response to Tasks 1-3 pertaining to the development of an all-source data base for nuclear proliferation intelligence. ERDA maintained sources of proliferation-related data include the following:

1. The Nuclear Materials Information System (NMIS) is a computer data base on U.S. special nuclear material supplied to foreign countries. NMIS is maintained at the Oak Ridge National Laboratory (ORNL) and includes information on quantities and isotopic content of material supplied.

2. The World Energy Data System (WENDS) is a computer data base of unclassified information on foreign energy technology programs. WENDS was recently established by the ERDA Assistant Administrator for International Affairs.

3. A data base of nuclear abstracts is maintained at ORNL, providing information on foreign nuclear publications.

4. A file on foreign uranium enrichment capacity, services, and requirements is maintained in the ERDA Division of International Security Affairs.

5. An all-source computer data base on worldwide plutonium stocks and flows is planned, to be maintained at the Lawrence Livermore Laboratory (LLL), and to include data from the nuclear industry and from the Intelligence Community.

The users of proliferation intelligence require information that bears directly on U.S. non-proliferation policy and related national security issues. The successful implementation of U.S. non-proliferation and

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EXEMPT FROM GENERAL DECLASSIFICATION SCHEDULE O
EXECUTIVE ORDER 11652 EXEMPTION CATEGORY 5(B) (2)
AUTOMATICALLY DECLASSIFIED ON IMPDET
R. E. Chapman (date or event, if any)

nuclear export policy requires intelligence on foreign nuclear proliferation-related activities including:

- foreign nuclear proliferation policies and plans
- foreign nuclear research and power programs
- supporting programs required for nuclear explosive development (e.g., high explosive fabrication and testing, fusing and firing technology)
- available trained personnel in nuclear and supporting disciplines
- current activities of nuclear supplier nations as they relate to candidate proliferating nations

The proposed all-source nuclear proliferation intelligence data base should satisfy the above user requirements by consolidating relevant data from the above ERDA sources and from other Intelligence Community sources. ERDA expects to participate in this Community effort to provide users with a single data base on proliferation intelligence that is tailored to meet user requirements.

Sincerely,

Ray E. Chapman, Director
Division of International
Security Affairs

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Next 5 Page(s) In Document Denied